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Surgeon-General's  
Office  
December 15, 1942

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Dear Doctor:

This letter is sent to you by the Surgeon Generals of the Army and Navy and the U. S. Public Health Service, with the cooperation of the American Medical Association and under the auspices of the Committee on Information of the Division of Medical Sciences of the National Research Council.

Such letters will be issued each two weeks unless extraordinary circumstances arise to prevent. Their purpose is to keep the physician in the armed forces abreast of current developments in medical science and in medical military information.

Karrigan (Surg., Gynec. & Obst., Aug. 1942, p. 166) says that the tendency is more and more to treat wounds with plenty of soap and water rather than with antiseptics. He reports 12,000 wounds treated exclusively with soap and water. In no instance was it necessary later to put any worker in the hospital because of infection of the wound.

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The changing of the room in which examinations are made from one with the appearance of a laboratory to one like an ordinary bedroom resulted in many lessened records of high blood pressure or high basal metabolism. (Neumann, Cohn and Burch, J. Clin. Investigation, Nov. 1942, p. 651.)

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According to Dr. P. C. Jeans (J.A.M.A. Nov. 21, 1942, p. 913), nursing mothers should take not less than 1.5 mg. of thiamine daily in order that the milk may provide the baby with enough of this vitamin.

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According to Dr. Hugh R. Butt, in a statement issued by the Council on Foods and Nutrition of the American Medical Association (J.A.M.A. Nov. 28, 1942, p. 1030), "If the physician makes only a cursory appraisal of the current literature, he may be led to believe that in vitamin E he has a potent weapon for his attack on habitual abortion, sterility, menstrual disturbances and various myoneurogenic disease. A critical analysis of these numerous reports, however, tends to stem over-enthusiasm."

It has been reported and well established by several groups of workers that administration of vitamin K to mothers prior to delivery will prevent the usual fall in the level of prothrombin in the blood which is observed in new-born infants and that administration of vitamin K to the new-born infant will also increase the concentration of prothrombin in the plasma. The name chosen for vitamin K by the Council on Pharmacy and Chemistry is menadione. Two mg. of menadione given by mouth to a mother one-

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half to forty-eight hours before delivery is effective in preventing hemorrhagic disease in the new-born infant. Many workers believe that instances of cerebral hemorrhage occurring in the course of birth with minimal trauma are precipitated by small hemorrhages which endure for a number of days. Most investigators believe that vitamin K in some form should, therefore, be administered to every mother at the onset of labor.

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American and Swedish investigators have been testing the effects of dicoumarin, the toxic agent from spoiled sweet clover. In Sweden the product is called AP (anti-prothrombin). There it is being tested for the prevention of postoperative thrombosis, used much the same as is heparin. (Edit. J.A.M.A. Nov. 28, 1942, p. 1040).

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The standard Army-Navy package of serum albumin human (concentrated) contains 25 Gm., called a unit, which is equivalent to approximately 500 c.c. of citrated blood. This is dissolved in 100 c.c. of buffered diluent, in which concentration it is stable in temperatures up to 50° C. Use of this product is effective in combating shock, hemorrhage and burns. (Edit. J.A.M.A. Nov. 28, 1942, p. 1041).

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The diuresis following an alcoholic drink is roughly proportional to the amount of alcohol present. Cold causes a greater diuresis. The degree is dependent on the natural rate of absorption of alcohol and water and on some variation of the sensitivity of the pituitary mechanism. (Eggleton, J. Physiol., Aug. 18, 1942, p. 172).

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Gastric disorders present a difficult problem in military medicine because of their chronicity and tendency to relapse or develop on the basis of the hereditary predisposition. The stomach is influenced more than any other organ by the psyche and the sympathetic nervous system. A. Haemmerli of Basel reports that many cases of nervous dyspepsia can be readjusted by changing the mode of living. In some instances military service produces a desirable change and restores balance; in others it intensifies the existing disorder. (Haemmerli, Helvetica Medica Acta, Dec. 1941, p. 691).

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Repeated flowing of cold water into the ear produces an extra amount of bone. It is reported that patients who have extra amounts of bony growth around the ear canal usually state that they have done much swimming in extremely cold water. (Fowler and Osmun, Arch. Oto., Oct. 1942, p. 455).

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"A mobile operating unit has been developed for use with the armored forces which proved under test to be very effective. This consists of a van type bus of the six-wheel variety with the four wheels equipped with double tires to facilitate crossing of broken ground and to give better traction in soft terrain. The operating van is fully equipped to render modern surgical treatment. This type of equipment is capable of rapid movement and is prepared to commence operations immediately upon arrival at the desired place. ....The transportation of wounded by airplane ambulance is a very important development in medical field service. The advantage in this method lies in the fact that properly selected patients can be transported vast distances from the battle area to the homeland in a short space of time. The effect on the morale of troops is enormous. A special type of airplane ambulance to be accompanied by trained medical personnel is now under process of development. Large transport types of planes necessitate landing on established fields or specially prepared ground and, therefore, cannot be used in the forward area of the battlefield. A different type of plane is necessary for the latter service and recent improvements in the autogiro offer promising possibilities. Litter carriage is a slow and difficult task. Considerable experimentation has been made utilizing the jeep type of motor vehicle to clear the wounded from the field combat....." (From address by Maj. Gen. James C. Magee at meeting of the Association of Military Surgeons).

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Raymond Greene (The Practitioner, 148:38, 1942) writes: "This article deals with true frost-bite, both sudden and gradual, trench foot, shelter foot and immersion foot. The relation between these four conditions lies in the fact that in all an abnormal transudation of fluid from the blood vessels leads to oedema and tissue damage.

"In frost-bite the main cause is cold, in trench and immersion foot damp, and in shelter foot venous stagnation. In all four one or more of the other factors contribute to the common end.

"The article describes in some detail the methods of prevention which should be adopted, and in treatment stress is laid on the ill-effects of heat and of massage of the affected part. Gentle massage of the upper part of the limb not actually numb may be helpful, but any rubbing of the affected part is dangerous. No greater warmth should be applied than is obtainable by placing the affected extremity between a companion's thighs or in his axilla. If these measures fail to produce a return of warmth and feeling, the affected part should be very gently cleaned, painted with proflavine, wrapped in sterile dressings and given rest. Arms must be carried in slings, feet must be raised and on no account used. Antitetanus serum should be given. The patient should be given hot drinks, hot food and extra clothing, and removed as quickly as possible to a place of rest and comparative comfort. If the feet are affected, he is a stretcher case. If the frost-bite has occurred high above sea-level, he should be given oxygen through a face-piece until he has reached



more normal levels. In the absence of sepsis recovery is usually uneventful and the tissue loss surprisingly slight. Amputation should not be undertaken hurriedly; it is seldom necessary and never urgent. The original article should be consulted for details." (A.C.R. in Brit. J. Dermat. & Syph., Oct. 1942, p. 275).

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In an address before the Annual Conference of Secretaries and Editors of Constituent State Medical Association in Chicago, November 20, Rear Admiral Ross T. McIntire stated that the problems pressing for solution included, first, shock and, second, fatigue.

"When this war began there were less than a thousand regular medical officers in the Navy Medical Corps. Today we have added between six and seven thousand reserve officers to that number. It is with peculiar satisfaction that I am able to tell you today that the great majority of these men are functioning as smoothly as though they had been in the Navy for years. It is the present policy of the Medical Department of the Navy to order as many of these officers as possible to our naval hospitals for a period of time following their induction into the service. If this cannot be done they are ordered to our large training stations, where they receive a short period of indoctrination in the ways of Navy life.

"The medical specialists' units that have been organized during the past few years have proved of great value in that they are now operating in our hospitals within the continental limits, in our mobile hospitals that are established in the islands of the oceans, and on our hospital ships. The officers of captain and commander ranks in the regular corps of the Navy are being used in executive capacity, in the main, and the professional work is being carried on by our reserve officers. We find that this works in a highly satisfactory manner."

Admiral McIntire said there are now 41 Naval hospitals ranging from bed capacities of 300 to 5,000 with patient loads of 175 to 3500 patients. Transport planes now available carry 12 stretcher cases and 25 ambulatory cases to these hospitals following battles. Of the first 1000 cases that came in, the mortality rate of war casualties, including head injuries, chest injuries and abdominal injuries, was less than 1 per cent. The chief factors in this marvelous result were immediate administration of plasma, morphine and sulfanilamide sprinkled on the wound, with sulfadiazine or sulfathiazole internally. The Navy has made great advances in the control of air blast from bomb explosions and blast injuries due to explosion of depth bombs.

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According to Bailey (Biochemical J., Feb. 1942, p. 121), the liberation of the calcium ion in the vicinity of the adenylyl pyrophosphate group is the essential feature of excitation and contraction in muscles.

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Immersion foot is the name used to denote a condition produced by long immersion of the feet in cold water, usually associated with immobility of the limbs and constriction by boots or other clothing. The condition is similar to "trench foot" or "shelter foot." It has become an extremely pressing medical problem because of its frequency in those who have been long adrift after torpedoing at sea. Recently three Royal Canadian medical officers have reported the observations on 142 cases of immersion foot, almost all of them the result of enemy action in the North Atlantic. The patients had been in lifeboats or rafts for periods varying from thirty hours to twenty-two days, the boats almost always containing water to a depth of several inches. The only recorded temperatures of the water showed it to be from 34 to 36° F., and, as the freezing point of sea water is approximately 28.5° F., the feet may well have been exposed to surface cooling below the freezing point of blood, which is 31° F. At the time of removal of the patients from the open boats or rafts, the feet were cold, swollen, and waxy white in color, with scattered cyanotic areas. The patients complained at that time that their feet felt heavy, "woody," and numb, and the feet were anesthetic to pain, touch and temperature. Shortly after removal of the feet from this traumatizing environment, the swelling increased rapidly as the feet became red, hyperemic, and hot without sweating, and the pulse in the vessels of the feet was full and bounding. This is followed in about ten days by intense neuritic pains and, in severe cases, by varying degrees of gangrene. Dry refrigeration appears to be successful in reducing tissue loss to a minimum. Return of sensation and complete motor control may be delayed for many weeks, and pain may recur on exposure to cold and wet.

First aid and hospitalization should be directed to avoidance of trauma, slow warming of affected limbs, strict asepsis and adequate supportive treatment. The condition may occur in those exposed for long periods in subtropical waters and thus cannot be classed as a true frostbite. For prophylaxis, these investigators suggest that boots and any constricting footwear, if wet, should be removed, and oil or heavy grease should be generously applied to the feet while the seaman is exposed. On rescue, the patient should be lifted, if possible, and not be permitted to walk. No massage should be attempted, and the feet should be exposed and elevated, and the patient given supportive treatment. In the hospital, strict asepsis should be maintained, and the feet should be cooled, if possible, during the hyperemic period. (Webster, Woolhouse and Johnston, J. Bone and Joint Surgery, Oct. 1942).

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A new chemical known as ammonium sulfamate acts to retard burning. It is so flame-proof that a blazing blow-torch merely scorches paper and cloth that has been properly sprayed or dipped in this solution and dried. Workers' clothing is being treated with this material whenever the workers are exposed to fire hazards. The material is also being used on paper blackout curtains.

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A recent study on the use of tinted eyeglasses stimulates some special recommendations. Tinted eyeglasses were invented to absorb the excess visible rays of light. The vast majority of people do not need tinted glasses except on rare occasions. People who complain of pain from light need a careful medical examination. Tinted glasses should not be used for work indoors, as they take away too much light and thus put an increased burden on the eyes. The exceptions cover workers in foundries and in motion picture studios and people with diseases of the eyes or those who have just had operations on the eyes. Protection against glare may be needed at high altitudes, at sea, on the seashore, in deserts and in snow fields. (Blain, L'Union Medicale du Canada 71:961 (Sept.) 1942).

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The sulfa drugs have not been especially efficient in virus diseases. Some specialists in a children's hospital tried the use of sulfa drugs in patients with measles routinely to see if complications would be fewer. They found that the sulfa drugs did not affect the course of the measles, nor did their routine use seem to be especially efficient in preventing the ordinary complications. If, however, bronchopneumonia occurs in patients with measles, the sulfa drugs are helpful. (Gibel and Litvak, J. Pediat. Sept., 1942, p. 315).

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A commission to study typhus in the war zones has been created under the leadership of Rear Admiral C. S. Stephenson, M. C., U. S. Navy. Other members include Lt. Col. Harry Plotz, M. C., U. S. Army; Senior Surgeon Adolph Rumreich, U. S. Public Health Service, and Major John C. Snyder, M. C., U. S. Army. Typhus vaccines will be studied and the commission will investigate factors which cause the spread of the disease in areas where typhus is endemic..... Dr. Joseph F. Lichty, formerly of Cleveland, has been appointed assistant dean of the faculty of medicine at Harvard.....A club for American nurses has been opened in London in Charles Street with all the usual club facilities.....London has twelve undergraduate schools, all attached to voluntary hospitals. A new medical school is proposed for immediate installation under the auspices of the London County Council.